

Testing Specifications

Chamo

By **Anonymous Messaging:**

Alex Kem

Angeline Dequit

Sopheak Chim

Darren Seng

Ivy Ly

Version: 3.0

May 11, 2024

Version Table:

Version 1	Date: 12/7/23												
Version 2	Date: 3/16/2024												
	<p><i>Summary of Changes:</i></p> <ul style="list-style-type: none"> • <i>Added information is in green</i> • <i>Updated information is in blue</i> • <i>Deleted information is in red</i> <table border="1"> <tr> <td></td><td></td></tr> </table> <p><i>No changes have been made to this document.</i></p>												
Version 3	Date: 5/11/2024												
	<p>Summary of Changes:</p> <ul style="list-style-type: none"> • Added information is in green • Updated information is in blue • Deleted information is in red and strikethrough <table border="1"> <thead> <tr> <th>Section Changed</th><th>Page Number</th></tr> </thead> <tbody> <tr> <td>Added Description of Test and Steps for Private Profile Sharing</td><td>Pg 6</td></tr> <tr> <td>Modified Login/Sign-up Page (Usability): Deleted Use Case #5 – View Privacy and Policy Guidelines</td><td>Pg 9</td></tr> <tr> <td>Modified Explore Page</td><td>Pg 10</td></tr> <tr> <td>Modified Chat Page</td><td>Pg 11</td></tr> <tr> <td>Deleted Personality Test (Usability)</td><td>Pg 12</td></tr> </tbody> </table>	Section Changed	Page Number	Added Description of Test and Steps for Private Profile Sharing	Pg 6	Modified Login/Sign-up Page (Usability): Deleted Use Case #5 – View Privacy and Policy Guidelines	Pg 9	Modified Explore Page	Pg 10	Modified Chat Page	Pg 11	Deleted Personality Test (Usability)	Pg 12
Section Changed	Page Number												
Added Description of Test and Steps for Private Profile Sharing	Pg 6												
Modified Login/Sign-up Page (Usability): Deleted Use Case #5 – View Privacy and Policy Guidelines	Pg 9												
Modified Explore Page	Pg 10												
Modified Chat Page	Pg 11												
Deleted Personality Test (Usability)	Pg 12												

	Deleted Firebase Cloud Messaging API (Functionality & Reliability)	Pg 14
	Modified Anonymous & True Profiles (Reliability)	Pg 14
	Modified Multiple Server Request (System)	Pg 18
	Modified Maintenance (Server Down Time) (System)	Pg 18
	Modified Ease of Use (System)	Pg 19
	Modified Database Integrity (System)	Pg 20
	Deleted Revealing Identity (Acceptance)	Pg 22
	Deleted Personality Testing (Acceptance)	Pg 23

Table of Contents

Executive Abstract	5
Unit Level	6
Module Level	9
Integration Level.....	13
System Level	16
Acceptance Level	20
References	23

Executive Abstract

This document outlines the testing specifications for the website “Chamo” to ensure stability and robustness of software, as well as detect and solve any software errors or flaws. This document outlines the specifications of each test case. Test cases were developed using the five levels of the ISO 25010 quality model for software and data quality (International Organization Standardization (ISO) 25000, 2022). The document tests the following levels, respectively: Unit, Module, Integration, System, Acceptance.

In each test case, the following are defined:

- **Test Level:** One of the 5 testing levels defined above (e.g Unit, Module, etc.)
- **Quality criterion/attribute:** Referenced from ISO 25010 (e.g Functionality, Usability, etc.)
- **Description of Test:** Describes what the test case tests
- **Requirements Reference:** References to Use Cases outlined in the Requirements document (e.g Use Case #4)
- **Steps of the test case:** What the user or test script does
- **Expected outcome:** what the system returns as output

Unit Level

Basic actions needed for app functionality. The scope of each unit's actions is isolated from each other. Individual parts that can be tested for effectiveness.

1. Initializing a Chat

Test Level	Unit
Quality Criterion/ Attribute	Performance efficiency
Description of Test	Users are able to initiate a chat via a topic, being paired with a random user also initiating a chat through the same topic.
Requirements Reference	1. Use Case #15 Create new Chat 2. Use Case #16 Matching Users 3. Use Case #17 Chat sidebar
Steps of the Test Case	<ol style="list-style-type: none">1. Go to the Explore Page.2. Hover over a topic and click the Join button.3. Wait for the pairing process to finish. If the process takes too long, the user can minimize the popup and continue exploring the site until they get a match.4. Once the user gets a match, they get redirected to the 1 on 1 chat window.
Expected Outcome	User is redirected to the chat window and has a random chat partner.

2. Private Profile Sharing

Test Level	Unit
Quality Criterion/ Attribute	Functional Suitability, Correctness
Description of Test	While both users are anonymous to each other, a user can make a request to add their chat partner to exchange private information.
Requirements Reference	<ol style="list-style-type: none">1. Use Case #14 One-on-One Messaging
Steps of the Test Case	<ol style="list-style-type: none">1. While in the chat window, the user clicks on the Add friend button in the profile button and waits for a response from the chat partner.2. The receiving user has the option to Accept or Reject.3. An accepted friend request allows both users to see each other's private profiles with more personal information.
Expected Outcome	Both users are able to view each other's profiles. They also get added to each other's Friends lists.

3. Searching for Topics

Test Level	Unit
Quality Criterion/ Attribute	Performance Efficiency
Description of Test	Users are able to find whatever topic they desire to initiate a chat through.
Requirements Reference	1. Use Case #20 Explore Page
Steps of the Test Case	1. From the Home Page, go to the Explore Page. 2. Users can scroll through the topics listed by default or use the search bar to find a specific topic.
Expected Outcome	Users can view the topic chiclet of their choosing and be able to interact with it.

4. Signup

Test Level	Unit
Quality Criterion/ Attribute	Security, Integrity
Description of Test	Users are required an account to access the main functions of the app.
Requirements Reference	1. Use Case #1 User Registration
Steps of the Test Case	1. When the user goes to the site, if they don't have an account that's already logged in, they are directed to the Signup page. 2. User goes through the signup process. 3. User can go through the login process once signup is complete.
Expected Outcome	User successfully completes the signup process and is redirected to the page where they can login.

5. Login

Test Level	Unit
Quality Criterion/ Attribute	Functional Correctness
Description of Test	When the user has an account, they can login to access the main app features.

Requirements Reference	1. Use Case #2 User Login
Steps of the Test Case	<ol style="list-style-type: none"> 1. Enter required information into the login criteria and click login. 2. Get redirected to the main home page.
Expected Outcome	The user is able to access main site features and be able to view their profile.

Module Level

At the Module testing level, we determine how well different units, or components, work together and function as a whole. In our case, this means testing the different pages of our site, Chamo, including the login and sign-up, explore, chat, profile, and settings pages.

1. Login/Sign-up Page (Usability)

Test Level	Module
Quality Criterion	Functionality
Description of Test	User are to log into their account, and register for a new account.
Requirements Reference	Use Case #1 - User Registration Use Case #2 – User Login Use Case #5 – View Privacy and Policy Guidelines
Steps of Test Case	Login <ol style="list-style-type: none">1. Navigate to the login page2. User enters (username or email) and password3. User clicks “Forgot Password” link<ol style="list-style-type: none">a. User enters registered emailb. User clicks link to visit page to set new passwordc. User enters new passwordd. User logs into site with newly registered password Sign-up <ol style="list-style-type: none">4. Click sign-up button5. Enter sign-up info on fields:<ol style="list-style-type: none">a. Enter email,b. phone number,c. birthday,d. (optional) gendere. (optional) locationf. Create password6. Verify account through link sent to email7. Return to site and logs in using registered credentials
Expected Outcome	User is able to either log into their account and access site features normally; and/or user is able to successfully register for an account. User receives confirmation email once successfully registered.

2. Explore Page (Usability)

Test Level	Module
Quality Criterion	Usability
Description of Test	User are to use all the functions on the explore page, including searching for a topic, creating a topic, initiating a chat via a topic, and viewing a list of all the topics.
Requirements Reference	<p>Use Case #15 – Create Topic for Explore Page</p> <p>Use Case #16 – Matching Users</p> <p>Use Case #17 – Chat Sidebar</p> <p>Use Case #19 – Search Bar</p> <p>Use Case #20 – Explore Page</p> <p>Use Case #21 – Create topic for Explore Page</p> <p>Use Case #22 – Global Navigation Bar</p>
Steps of Test Case	<ol style="list-style-type: none"> 1. User logs into Chamo site 2. Navigate to Explore Page 3. Search the chat bar for any topic or username <ol style="list-style-type: none"> a. User views auto-fill suggestions in the search bar while typing b. User clicks on a topic from the dropdown to open topic and start chat 4. Click “View All” to view a list of all created topics 5. Click “Create topic” to create a topic <ol style="list-style-type: none"> a. User fills in information about topic <ol style="list-style-type: none"> i. Enter title ii. Enter description iii. Attach picture b. Click Post Topic 6. Click a topic chicklet to start a chat. View new chat window once matched. 7. User views chat sidebar including, <ol style="list-style-type: none"> a. Chat history, sorted by most recent b. Chat messages 8. User able to show/hide chat sidebar 9. Navigate to other pages of the Chamo site via clicking the icons on the global navigation bar.
Expected Outcome	Users are able to browse topics and match with users for a certain topic. Users can also search for specific topics, and create new ones.

3. Chat Page(Functionality)

Test Level	Module
Quality Criterion	Functionality
Description of Test	Users are able to message other users, as well as view their chat history.
Requirements Reference	Use Case #8 – Report Form Submission Use Case #14 – One-on-One Messaging Use Case #15 – Create new chat Use Case #16 – Matching Users Use Case #17 – Chat Sidebar Use Case #18 – Search Chat
Steps of Test Case	<ol style="list-style-type: none"> 1. Navigate to the Chat page of the Chamo site 2. User sends message to recipient <ol style="list-style-type: none"> a. User sends links b. User sends a sticker c. User edits the message d. User deletes the message 3. User receives message from sender. 4. User views past messages within a chat. 5. User views chat sidebar by scrolling up and down the chat sidebar list. <ol style="list-style-type: none"> a. User accesses various chats displayed on the chat history sidebar. 6. User requests to add the recipient. <ol style="list-style-type: none"> a. User views Revealed profile of recipient 7. User can submit a report to a recipient
Expected Outcome	Users are able to send and receive messages from a user and view their chat history.

~~4. Personality Test Page (Usability)~~

Test Level	Module
Quality Criterion	Usability
Description of Test	User accesses and takes Personality Test
Requirements Reference	Use Case #4
Steps of Test Case	<ol style="list-style-type: none"> 1. User registers for an account 2. User starts personality test 3. User answers personality test questions 4. User views personality test result
Expected Outcome	User completes personality test successfully.

5. Settings Page (Functionality)

Test Level	Module
Quality Criterion	Functionality
Description of Test	User accesses and updates account, profile, site, notification, and site settings.
Requirements Reference	<p>Use Case #3 -- Profile Customization</p> <p>Use Case #9 – Edit User Profile and Account</p> <p>Use Case #10 – Change theme (light/dark)</p> <p>Use Case #11 – Manage Notifications</p> <p>Use Case #12 – View Help (FAQ, Security)</p> <p>Use Case #13 – Log Out</p>
Steps of Test Case (Settings Page, cont.)	<ol style="list-style-type: none"> 1. Navigate to settings page of Chamo site 2. User views profiles settings page <ol style="list-style-type: none"> a. User uploads a profile image b. User updates Public Profile Icon Color c. User adds or updates their profile information: <ol style="list-style-type: none"> i. Name ii. Age iii. Occupation iv. Country v. Favorite Topics vi. About vii. Personality Type 3. User views site settings page <ol style="list-style-type: none"> a. User changes theme (light/dark) b. User changes font scaling c. User enables/disables data cache 4. User views notification settings page <ol style="list-style-type: none"> a. User enables Social and Site Data Changes 5. User views security settings page <ol style="list-style-type: none"> a. User views privacy and policy guidelines page b. User clicks Help button <ol style="list-style-type: none"> i. User views the following sections: <ol style="list-style-type: none"> 1. Help Requests 2. FAQ 3. Blocked Users
Expected Outcome	User account details and settings are updated successfully.

Integration Level

Integration level tests refer to the quality of the system's APIs as well as the performance and reliability of the main features of the website. This includes Websockets, Messaging, Databases, Email Confirmation, and Friends profiles are showing . Ensuring all necessary systems are stable and working as intended on the platform.

1. WebSockets / Sockets.io API (Functionality)

Test Level	Integration Level
Quality Criterion	Functionality
Description of Test	Messages are being sent and delivered to users.
Requirements Reference	Use Case #14 – One-on-One Messaging
Steps of Test Case	<ol style="list-style-type: none">1. User logs in to Chamo website.2. Navigates to their chat history or start a new chat.3. Users can send a message to another user using the chat feature.4. Users are able to receive a message from another user using the chat feature.
Expected Outcome	Real-time messaging between users is working properly and archived.

~~2. Firebase Cloud Messaging API (Functionality & Reliability)~~

Test Level	Integration Level
Quality Criterion	Functionality & Reliability
Description of Test	Notifications are being sent and delivered to users.
Requirements Reference	Use Case #11 – Manage Notifications
Steps of Test Case	<ol style="list-style-type: none">1. User navigates to the Chamo site2. On the left side of the explore page it will display notifications, notifying the user they have received new messages from other users.
Expected Outcome	Notifications are being sent & received by users.

3. Email Confirmation (Reliability)

Test Level	Integration Level
Quality Criterion	Reliability
Description of Test	User provides login credentials; the system verifies them from the database

Requirements Reference	Use Case #1 – User Registration Use Case #2 – User Login
Steps of Test Case	<ol style="list-style-type: none"> 1. User is prompted with the Login/Sign-Up page 2. User fills out their information with an appropriate email address 3. Calls to database with the provided email address and verifies it
Expected Outcome	Logs Users into their account, if account doesn't exist prompts them to make a new account with the provided email.

4. Friend Profiles (Reliability)

Test Level	Integration Level
Quality Criterion	Reliability
Description of Test	User's anonymous profiles are to stay completely anonymous and only revealed when both parties agree to it. Through adding each other as friends.
Requirements Reference	Use Case #4 – Private/Public profile visibility
Steps of Test Case	<ol style="list-style-type: none"> 1. User navigates to the chat window with another user 2. User clicks onto their profile in the chat window 3. Another window appears showing the user's profile 4. There is a button in the chat window that asks add them as friends. 5. User requests this option and waits for the other user to accept or deny 6. Only when both users give consent is when both profiles are no longer anonymous among the two 7. A profile modal appears that shows off the information so each user can see.
Expected Outcome	User's accounts are completely anonymous and only show what's needed when revealed by both parties.

5. Database (Efficiency)

Test Level	Integration Level
Quality Criterion	Efficiency
Description of Test	Database is being maintained with data being updated in real-time to the server.

Requirements Reference	Use Case #1 – User Registration Use Case #2 – User Login Use Case #3 – Profile Customization Use Case #9 – Edit User Profile and Account
Steps of Test Case	<ol style="list-style-type: none"> 1. User navigates to the Chamo website 2. User can login or create account 3. User navigates to their profile and their settings, information and preferences are correct and nothing is changed without them knowing.
Expected Outcome	The website works and users are able to login to their accounts.

System Level

The System Level refers to having full administrative access, including operating system access and hosted application access, to the system. The system is tested to check the search performance, multiple server requests, maintenance (server down time), ease of use, and database integrity.

1. Search Performance

Test Level	System
Quality Criterion/ Attribute	Performance Efficiency
Description of Test	The user will have access to various search options on our web application.
Requirements Reference	<ol style="list-style-type: none">1. Use Case #1- User Registration2. Use Case #2- User Login3. Use Case #11- Manage Notifications4. Use Case #12- View Help (FAQ, Security)5. Use Case #18- Search Chat6. Use Case #19- Search Bar7. Use Case #20- Explore Page8. Use Case #22- Global Navigation Bar
Steps of the Test Case	<ol style="list-style-type: none">1. Login/ Account registration2. Navigate to the chat history section to search/view the user's list of chats3. Navigate to the Explore page to search/ view interests4. Use global navigation bar to utilize other features5. Observe the correctness of results
Expected Outcome	Appropriate results are returned in a timely and accurate manner.

2. Multiple Server Requests

Test Level	System
Quality Criterion/ Attribute	Reliability, Functional Suitability
Description of Test	Various requests are being sent to verify if the server can handle large amounts of requests simultaneously.
Requirements Reference	<ol style="list-style-type: none">1. Use Case #1- User Registration2. Use Case #2- User Login3. Use Case #3- Profile Customization4. Use Case #6- Filter Spam and Duplication

	5. Use Case #7- Safety Filter 6. Use Case #8- Report Form Submission 7. Use Case #11- Manage Notifications 8. Use Case #16- Matching Users 9. Use Case #18- Search Chat 10. User Case #19- Search Bar 11. Use Case #20- Explore Page 12. Use Case #21- Create a Topic for the Explore Page 13. Use Case #22- Global Navigation Bar
Steps of the Test Case	1. Multiple Login/ Account registration requests sent to server 2. Edit multiple profiles 3. Apply multiple filters 4. Submit multiple report forms 5. Initiate multiple different chats 6. Multiple search requests sent to server 7. Create multiple topics/ interests requests sent to server 8. Attempt to navigate through multiple features
Expected Outcome	Server is up and running and has responded to all the incoming requests with no down time.

3. Maintenance (Sever Down Time)

Test Level	System
Quality Criterion/ Attribute	Maintainability
Description of Test	Application needs update, various bug fixes, and back-end status
Requirements Reference	1. Use Case #2- User Login 2. Use Case #11- Manage Notifications 3. Use Case #6- Filter Spam and Duplication 4. Use Case #7- Safety Filter 5. Use Case #8- Report Form Submission 6. Use Case #18- Search Chat 7. Use Case #19- Search Bar 8. Use Case #20- Explore Page
Steps of the Test Case	1. Login to the application 2. Make search requests (and expect to get a Server Down Message) 3. Apply multiple filters 4. Review report form submission to update system 5. Look at the message from the system administrator and make the schedule based on the server down time.

Expected Outcome	In case of whole server maintenance, system gives back “server down” message, but in case of minor changes, all functionalities except for some should run and go unnoticed by the user.
-------------------------	--

4. Ease of Use

Test Level	System
Quality Criterion/ Attribute	Usability
Description of Test	All types of users can access the application without issues.
Requirements Reference	<ol style="list-style-type: none"> 1. Use Case #2- User Login 2. Use Case #3- Profile Customization 3. Use Case #4- Personality Test 4. Use Case #8- Report Form Submission 5. Use Case #11- Manage Notifications 6. Use Case #14- One-on-One Messaging 7. Use Case #18- Search Chat 8. Use Case #19- Search Bar 9. Use Case #20- Explore Page 10. Use Case #21- Create a Topic for the Explore Page
Steps of the Test Case	<ol style="list-style-type: none"> 1. Edit profiles 2. Take optional personality test 3. Submit report form 4. Initiate chats with other users 5. Make search requests 6. View/ create interests for Explore Page
Expected Outcome	The user has completed all the necessary steps as expected to form the above actions.

5. Database Integrity

Test Level	System
Quality Criterion/ Attribute	Functionality Suitability
Description of Test	Database information is secure, consistent, and accurate during online and offline time.
Requirements Reference	<ol style="list-style-type: none"> 1. Use Case #2- User Login 2. Use Case #3- Profile Customization 3. Use Case #4- Personality Test 4. Use Case #8- Report Form Submission 5. Use Case #14- One-on-One Messaging 6. Use Case #21- Create a Topic for the Explore Page

Steps of the Test Case	<ol style="list-style-type: none"> 1. Login to the application 2. Edit profile 3. Submit report form 4. Initiate chat 5. Add interest to Explore Page
Expected Outcome	All changes that were made by the user have been successfully saved to the database asynchronously

Acceptance Level

Acceptance Level is where the developers examine the software's response to User's input from Chamo. In this level, the developers verify if the web app reaches our user's expectation and execute properly in different cases. Additionally, this helps pinpoint issues that users may run into while using Chamo.

1. Creating an Account

Test Level	Acceptance
Quality Criterion/ Attribute	Security & Functionality Suitability
Description of Test	User creates an account by inputting necessary information (ex. username, password, email, etc.)
Requirements Reference	<ol style="list-style-type: none">1. Use Case #1: User Registration2. Use Case #2: User Login
Steps of the Test Case	<ol style="list-style-type: none">1. Start on the landing page for Chamo2. Click on the Sign-Up Button3. User fills out all necessary information for creating an account.4. User takes a personally test5. User is redirected to the home page
Expected Outcome	The new account will be saved to the database. Users will gain access to all of the features of the web app.

2. Joining a Topic

Test Level	Acceptance
Quality Criterion/ Attribute	Functional appropriateness & Usability
Description of Test	After browsing the explore page, users can join a topic to get matched up with other users to talk to.
Requirements Reference	<ol style="list-style-type: none">1. Use Case #16: Matching Users2. Use Case #18: Search Chat3. Use Case #19: Search Bar
Steps of the Test Case	<ol style="list-style-type: none">1. Start at the Home Page2. Navigate to the Explore Page3. Find a topic to join4. Click on Join topic5. System will add you to the queue.

Expected Outcome	A pop up will notify users that they've joined the queue. Time duration of getting match will determine on the number of users in that queue. When the user gets a pair, the user will appear in the chat sidebar.
-------------------------	--

3. Revealing Profile

Test Level	Acceptance
Quality Criterion/Attribute	Functional appropriateness & Authenticity
Description of Test	After getting to know the user more, both parties can mutually reveal their identities to each other.
Requirements Reference	1. Use Case #3: Profile Customization 2. Use Case #9: Edit User Profile & Account 4. Use Case #18: Search Chat 5. Use Case #17: Chat Side bar 6. Use Case #4: Private/Public profile visibility
Steps of the Test Case	<ol style="list-style-type: none"> 1. Open up a chat session with the user you want to add friend 2. Send them a friend request via the top left dropdown menu 3. Once the other user accepts the request both are friended 4. User can press on the icon in the top right corner of the chat room to open up the profile modal 5. A side popout will show a profile modal containing the other user's info
Expected Outcome	A side popout will show a profile modal containing the other user's info once they are friended with one another.

4. Searching for a Topic

Test Level	Acceptance
Quality Criterion/Attribute	Usability, Reusability, & Functionality Suitability
Description of Test	User searches for a topic on the explore page to find a particular topic.
Requirements Reference	<ol style="list-style-type: none"> 1. Use Case #20: Explore Page 2. Use Case #19: Search Bar 3. Use Case #18: Search Chat
Steps of the Test Case	<ol style="list-style-type: none"> 1. On the header, the user clicks on the search bar

	<ol style="list-style-type: none"> 2. The user types in a keyword that will suggest a topic that they might be looking for. <ol style="list-style-type: none"> a. The user clicks on the suggested topic and gets redirected to that page. b. The user hits enter and gets redirected to a page of all the relevant topics
Expected Outcome	The user will be redirected to that specific topic, or a page of relevant topics based on their search. If there is no topics related to the search parameter, the user will be redirected to the “not found” page.

5. ~~Personality Test~~

Test Level	Acceptance
Quality Criterion/ Attribute	Usability & Functionality Suitability
Description of Test	At any time, the user can complete a 5–15-minute personality test. The system would record the results for each user and match them with the users they are most compatible with.
Requirements Reference	<ol style="list-style-type: none"> 1. Use Case #4: Personality Test 2. Use Case #3: Profile Customization 3. Use Case #1: User Registration 4. Use Case #9: Edit User Profile & Account
Steps of the Test Case	<ol style="list-style-type: none"> 1. The Personality Test can be accessed in two ways: <ol style="list-style-type: none"> a. During account creation, the user has the option to fill out a personality test. b. In the profile settings, the user can click to start the personality test. 2. The user will answer a series of questions from the personality test. 3. After the test, the user will be redirected to the result page.
Expected Outcome	After the test, the user will be redirected to the result page. They will see their score, their personality trait, and their most compatibles. Additionally, there will be supplement information about their personality traits. The user can click on continue to go back to the main web app.

References

1. ISO 25010: <https://iso25000.com/index.php/en/iso-25000-standards/iso-25010>